

Wireless Transmission of Energy

The New Era – renewable wireless energy sources

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"The scientific man does not aim at an immediate result. He does not expect that his advanced ideas will be readily taken up. His work is like that of the planter—for the future. His duty is to lay the foundation for those who are to come, and point the way." – Nikola Tesla

1 X - To Be More than Itself

1.1 The New Era of Wireless Energy

The idea of powering the Earth wirelessly is one that has been considered by many great innovators. As commodities of the fossil fuel era waged man against man even still to this day, world leaders finally have agreed to put an end to the elite fossil fuel industry at the United Nations summit in Paris, December 2015. A global agreement to end fossil fuels has never sounded so exciting and yet so frightening. How does mankind live without the fossil fuel industry generating the energy needed to sustain today's society?

A few years ago, the Plekhanov brothers successfully re-engineered Nikola Tesla's wireless transfer of energy model. Nikola had a vision which is still shared by millions of people today; a vision of a world operating on sustainable renewable energy. Now that the destructive fossil fuel era is coming to a close, it is increasingly important to solve the world's energy needs with innovative technology.

The Plekhanov brothers' technological breakthrough allows for unlimited amounts of energy to be wirelessly transmitted across the globe. A new era of possibilities lies ahead with this exciting technology!

The technology presented on GET Corp's site (www.getCorp.com) offers renewable energy sources which can be built virtually anywhere in the world. These energy sources can provide power to anyone regardless of their proximity to the power source. Renewable energy farms such as solar farms could now be built as the main energy providers for this new era of clean energy and clean energy transfer using GET Corp.'s Tower Technology.

X can be more than itself – more than a consumerist technology company – and begin the transition from the wired grid and fossil fuel industry to become a green leader in a new era! Unlimited opportunities await X! In only three and a half years, X can become 100% carbon neutral, 100% self powered using renewable energy sources and most importantly, be 100% free of electricity costs.

1.2 X's Vision

The world will drastically change when this wireless transmission of power takes hold. Not only will the wireless transmission of power change the way we use technology today but it will also pave the

path to greater innovations. As will all great technologies, it will have a ripple effect on the future of technology.

Ideally, we would have a large source of renewable energy such as a solar farm, wind turbines or water dams, built anywhere in the world, to generate clean green energy. The energy would then be transmitted wirelessly around the world which will allow everyone to have power, even in the most remote places. The implementation of the wireless transmission of power will drastically reduce the global cost of electricity and its installation. There will be no need to run costly power wires within houses, buildings, cities, etc. It will also eliminate the chances of blackouts and brownouts occurring, which will be more convenient for all users and potentially save lives (hospital applications, driving, emergency signs, etc.). Furthermore, facilities can transition from high power AC devices to low power DC devices, eliminating the redundancy in electrical systems.

Not only will this technology benefit us on a global scale in the household and in the workplace but it will also benefit the automotive industry. This will be the final push that automotive manufacturers of electric vehicles (such as Tesla) need in order to prove that electric vehicles are the future of the automotive industry. Instead of having batteries in the electric vehicles, they will have a resonant coil which will allow the car to be continuously charged. It will eliminate the limited distance we currently have with electric vehicles because the resonating coil will allow the vehicle to have access to power from a transmission tower in range.

In turn, all the benefits of the wireless transmission of energy will help better the planet by drastically reducing CO₂ emissions and the poisonous toxins that are seeping into our atmosphere, waters and soil. It will also generate a large number of jobs to stimulate the global economy.

"The present is theirs; the future, for which I really worked, is mine." – Nikola Tesla

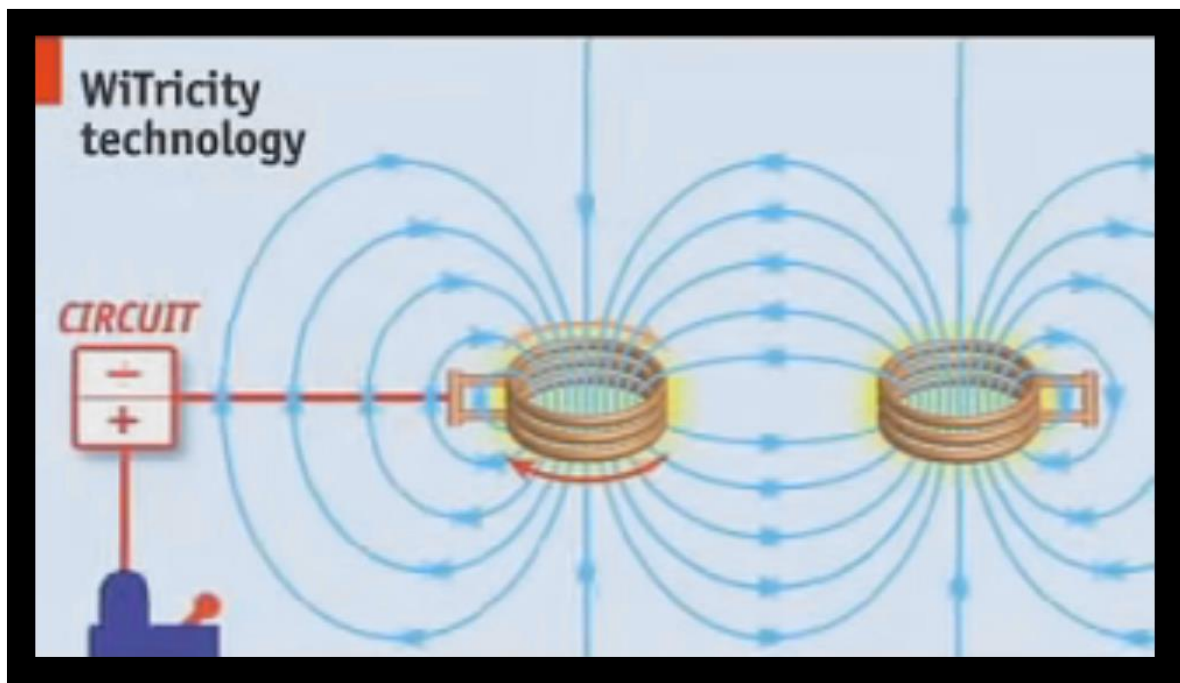
2 X's Solution

2.1 Theoretical Experiment

There are three steps to prove the concept of high powered wireless transmission of energy:

- **Step 1:** Create a circuit that will have a power source connected to a resonant coil. The power source will be a rapidly oscillating electric current which will create a magnetic field around the coil, as depicted in the diagram below.

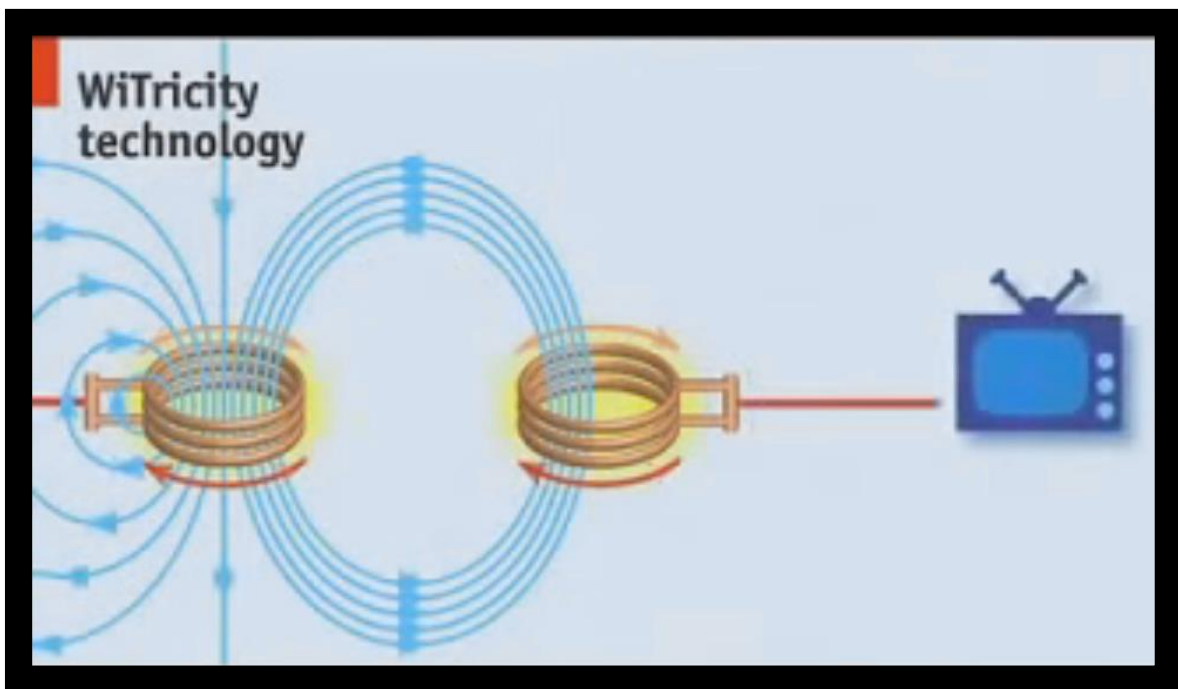
Figure 1: Demonstrating the premise of wirelessly coupling energy to bridge a distance



““The individual is ephemeral, races and nations come and pass away, but man remains.” – Nikola Tesla

- **Step 2:** We must teather an electric device to a separate resonant coil. This coil must be tuned to the same frequency as the resonant coil in step 1. The coil will receive the transfer of energy from the source to power the electrical device (a television in the diagram below).

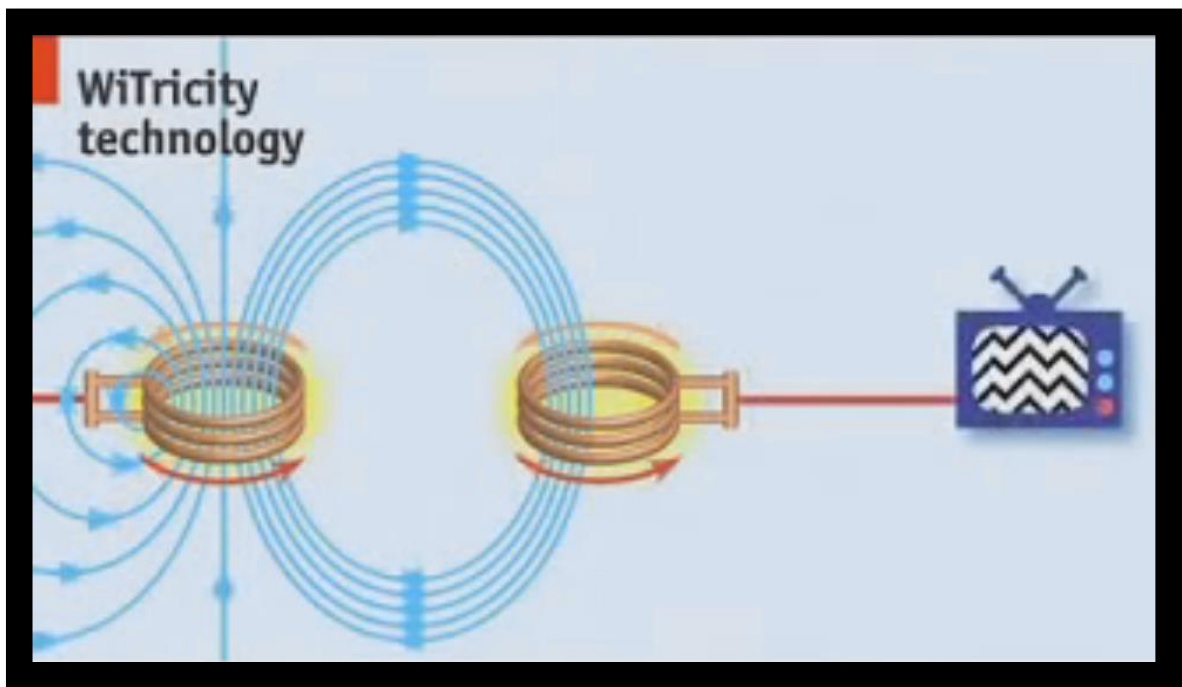
Figure 2: Demonstrating the wireless transfer of energy using highly coupled magnetic resonance to power a television



"Our virtues and our failings are inseparable, like force and matter. When they separate, man is no more" – Nikola Tesla

- **Step 3:** Turn on the power for the circuit and observe as the electrical device turns on. The device will be powered wirelessly using highly coupled magnetic resonance.

Figure 3: Demonstrating the successful wireless transfer of energy to power a television

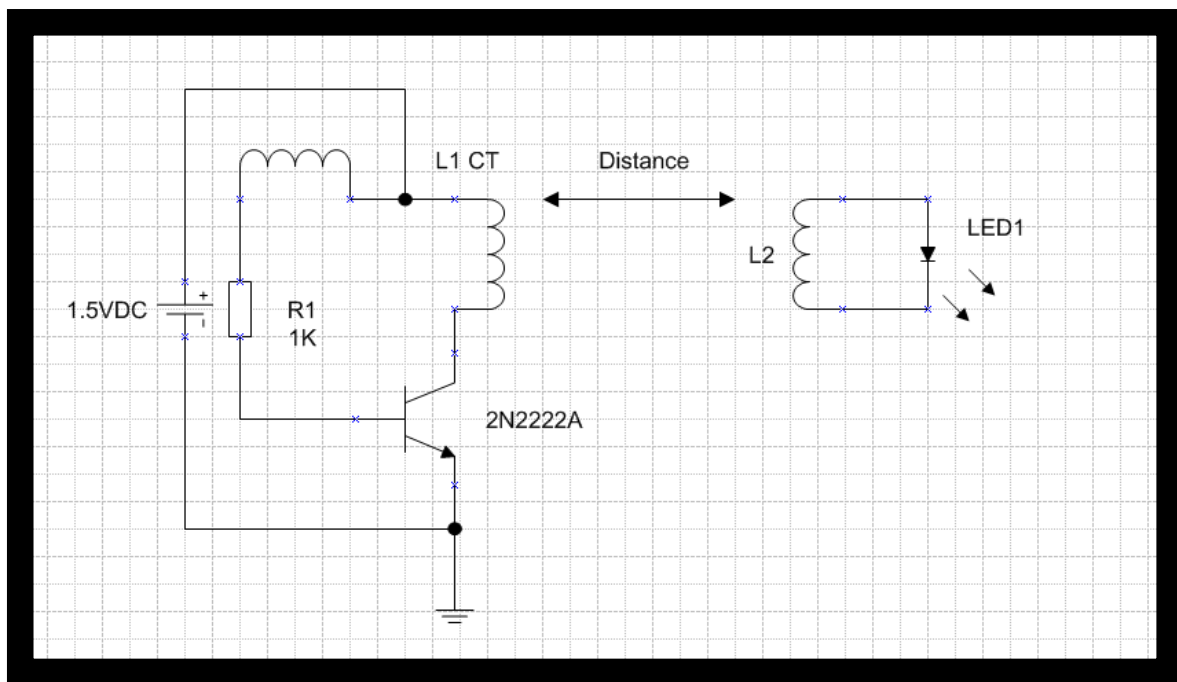


"All that was great in the past was ridiculed, condemned, combated, and suppressed— only to emerge all the more powerfully, all the more triumphantly from the struggle." – Nikola Tesla

2.2 Practical Experiment

We designed the circuit below to demonstrate the wireless transfer of energy. The power source was a 1.5V DC and the powered electrical device was a green LED, noted as LED1 in the diagram below.

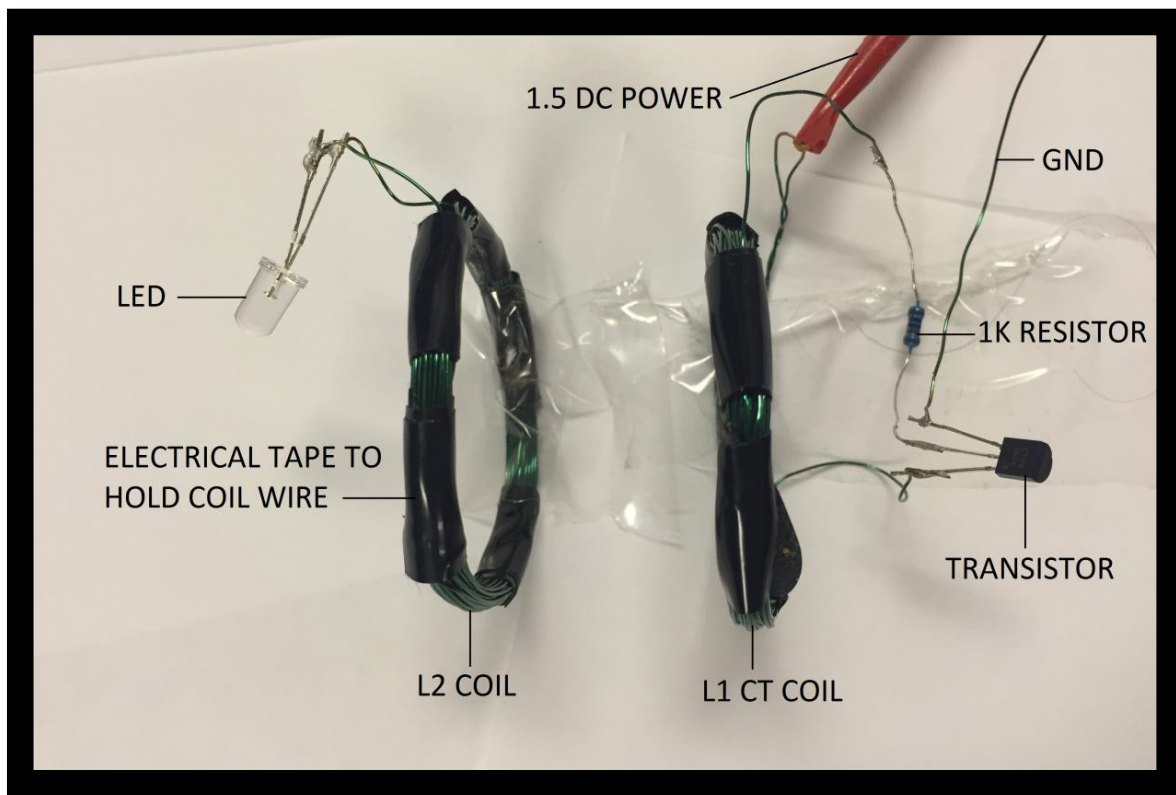
Figure 4: A diagram demonstrating the circuitry needed to produce a wireless transfer of energy



"Invention is the most important product of man's creative brain. The ultimate purpose is the complete mastery of mind over the material world, the harnessing of human nature to human needs." - Nikola Tesla

Based on the circuit diagram in Figure 4, we created a proof of concept.

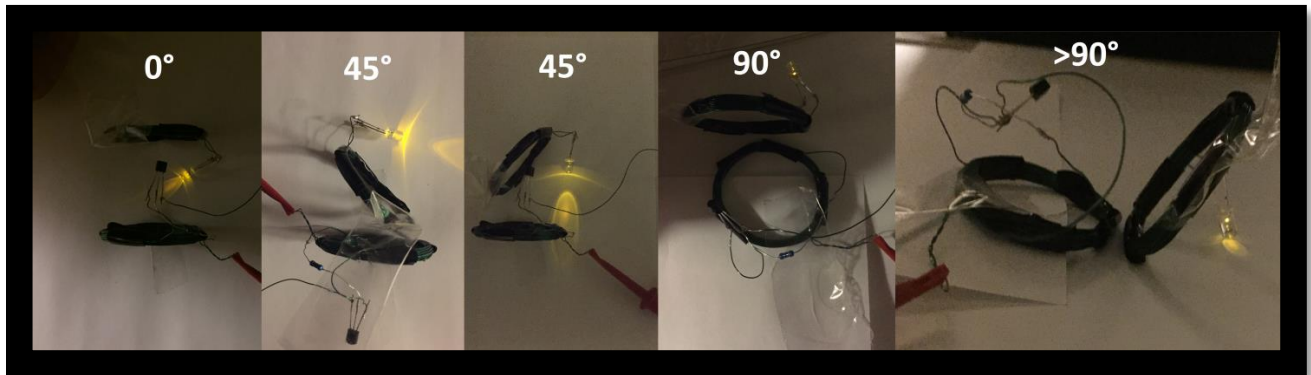
Figure 5: A photo of the prototype built based on the schematics of the diagram provided in Figure 4.



The coils were created using magnetic wire. L1 (the transmitting coil) had 24 windings of magnetic coil, a centre tap and another 24 windings of magnetic wire. L2 (the receiving coil) had 24 windings of magnetic wire. The inside diameter of L1 and L2 are 1.5 inches (38.1mm). Packing tape was used to keep the coils mounted vertically on a flat surface.

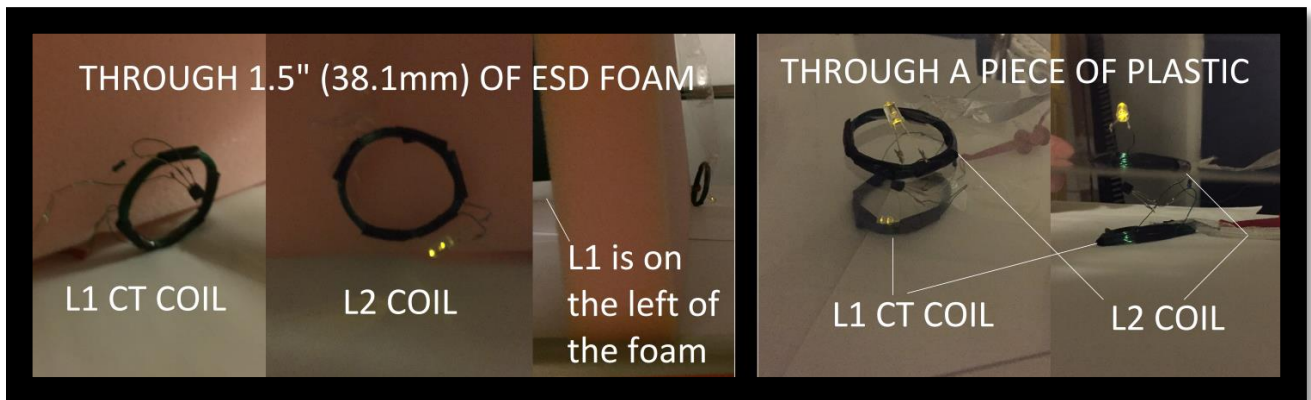
"Let the future tell the truth, and evaluate each one according to his work and accomplishments." – Nikola Tesla

Figure 6: A collage of photos demonstrating the wireless transfer of energy occurring at different angles to illuminate a yellow LED



Note: The LED illuminated over a distance of 4 inches (101.6mm).

Figure 7: A collage of photos demonstrating the transfer of energy occurring through different materials.



It is conclusive that the wireless transfer of energy is possible. It is also conclusive that energy can wirelessly transmit through different materials. The first three photos depict the energy transfer through a 1.5" (38.1mm) thick piece of electrostatic discharge (ESD) foam. The transmitting coil (L1) was on one side of the foam and the receiving coil (L2) was on the other. The last 2 photos depict the energy transfer passing through a thin sheet of plastic, where the transmitting coil (L1) was below the piece of plastic and the receiving coil (L2) was above the plastic.

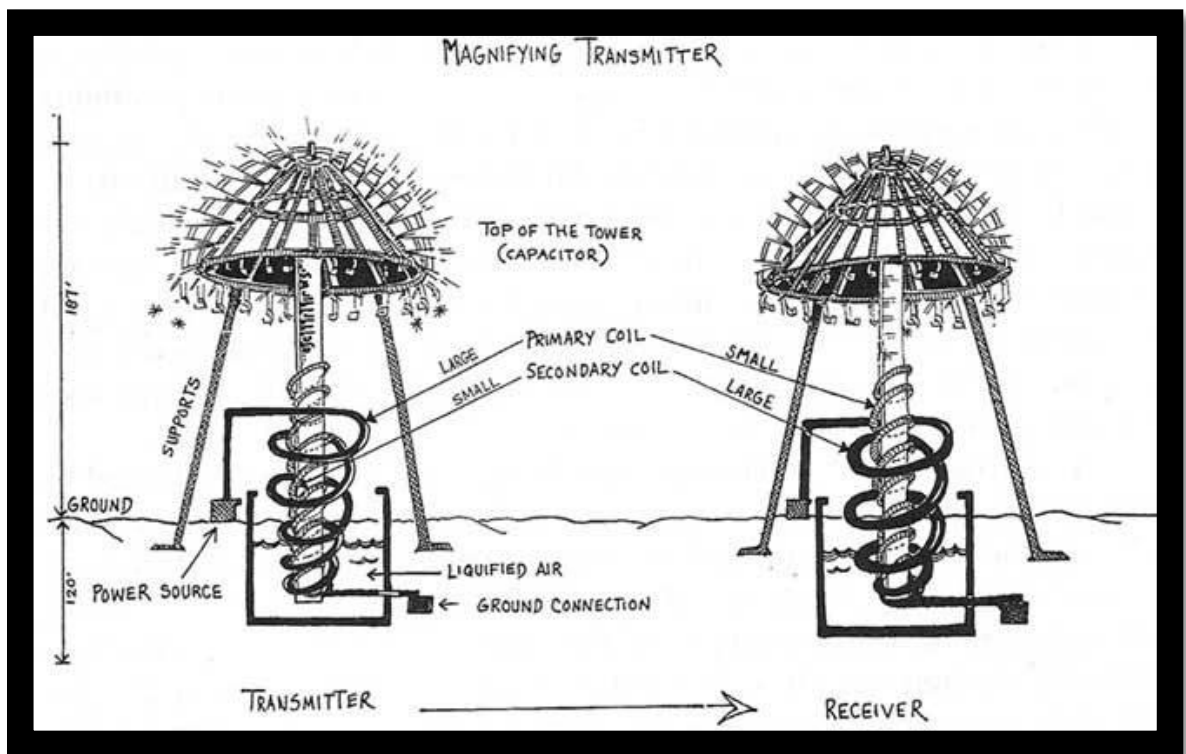
"If your hate could be turned into electricity, it would light up the whole world." - Nikola Tesla

2.3 The Solution for X

For X, there are a few more steps required in order for this to be profitable;

- **Step 1:** Build a wireless transmission of energy tower (provided by GET Corp.)
- **Step 2:** Build the renewable energy source, such as a solar farm
- **Step 3:** Build the receiving wireless transmission tower on the building to be powered
- **Step 4:** Implement RFID and Yagi-Uda antenna technology with resonant coils to be powered by nearby towers to wirelessly transfer electricity to all future electrical devices
- **Step 5:** Tether electrical devices to the RFID and Yagi-Uda antenna
- **Step 6:** Monitor each RFID and charge customer accordingly

Figure 8: Figure demonstrating the concept of the transmitting and receiving towers



"But instinct is something which transcends knowledge. We have, undoubtedly, certain finer fibers that enable us to perceive truths when logical deduction, or any other willful effort of the brain, is futile." - Nikola Tesla

2.4 The Need for This Technology

There is a dire need for this wireless transfer of energy in the world. Not only will it better the lives of all people in the world but it will also help pave the way for a cleaner greener future. Currently, the world is suffering **from poisonous gasses in the atmosphere, contaminated waters and soil, global warming, etc. as a result of the human demand for energy. With the wireless transfer of energy, we will be able to take full advantage of the natural renewable energies – for instance, have Ottawa powered by a solar farm built in Nevada (where there is plenty of sunlight) or have Egypt powered by energy that was generated by wind turbines in China. The wireless transfer of energy will change the world we live in to create a better future.**

2.5 The Biggest Challenge

The biggest challenges to be faced in this project will be obtaining the income to produce the main tower and the renewable energy source(s). Apple has built an 850 million dollar solar farm in order to use renewable energy for their facility. This evidences the fact that this not an inexpensive project, however it will provide financial independence. By spending money now, we can implement this technology for our facilities and sell the overage of power back to our local communities and governments. GET Corp has the blueprints for the wireless transmission of power as well as all the required safety precaution implementations and measurements.

2.6 How to Overcome Our Biggest Challenge

For X to overcome its technical challenges, we will need to be proactive in this new generation of wireless transfer of energy. As more companies are emerging around the world with mandates for cleaner, greener and more efficient technologies, it is only a matter of time before our current ideas and technologies become obsolete. Although hard wired technology played an immense part in our history by creating jobs and furthering our technologies, we are at the end of its era. We are entering a new era of technology and we can be the front-runners of this era by developing the wireless transfer of energy.

““Great moments are born great opportunity” – Nikola Tesla

3 X's Gap Assessment

The technology of wireless transfer of energy is infinitely better than a wired transfer of energy. To properly describe the benefits of the wireless transfer of energy, we must divide the idea into three scales; personal scale, city scale and global scale.

3.1 *Personal Scale:*

If the technology of wireless transfer of energy was only useable in a household (small sized receiving tower in a home), the benefits are endless as no one would ever have to charge anything in the household again. There would be no need for batteries for the television remote, no need to plug in a cell phone, or be limited to where you place certain things in your house based on the outlets in the wall. One could drive their electric vehicle home, get out and have it wirelessly charge. The sheer reduction in battery usage would benefit the home owner and the planet. All power in the household would also become DC - meaning that we could eliminate transformer and AC redundancy all together. Changing to DC will reduce the cost of everything that is an electrical device, **taking out AC to DC converter, weight for shipping, etc.**

““So astounding are the facts in this connection that it would seem as though the Creator, himself had electrically designed this planet...” – Nikola Tesla

3.2 City Scale:

If the technology of wireless transfer of energy could cover an entire city with multiple receiving towers or one large receiving tower, the benefits are limitless. The city scale would include all the benefits of the personal scale and many more. There would never be a need for power wires going to facilities and households which would save the city millions of dollars. It would eliminate all chances of blackouts and brownouts occurring in the city as there would be no power lines to be damaged – this will ensure hospitals never lose electricity and less people potentially getting hurt or killed by live open wires. The city could use electric public transportation (similar to trams in San Francisco, but wireless) such as electric busses or trains. It would drastically reduce emissions resulting in better air quality and less pollution. If all cities were to use wireless transfer of energy, it would greatly improve the health of the planet in the long and short term.

Figure 9: A comparative photo of smog in Beijing before and after the Red-Alert: Most of the pollution is blamed on coal-fired power plants, along with vehicle emissions and construction and factory work.



Note: We can drastically reduce if not prevent this smog from occurring in all cities by transferring to wireless energy

"We crave for new sensations but soon become indifferent to them. The wonders of yesterday are today common occurrences" - Nikola Tesla

3.3 Global Scale:

If the technology of wireless transfer of energy covered the entire planet by a few large receiving towers, the benefits would be incredible. The benefits on a global scale would include all of the benefits of the personal scale and the city scale. Everyone on the planet would have electricity no matter their location. Free-ranged energy for everyone will help humanity stay connected, eliminate poverty, reduce costs for everyone, have a cleaner and greener planet, etc. It will reduce pollution on a global scale which will, in turn, help reduce global warming and its negative effects such as the rising sea levels or polar ice caps melting. If we continue in our current ways, water levels could rise 2 meters by 2100 which will reduce Earth's land foot print by 10-15% or more. The benefits of wireless transfer of energy are endless.

Figure 10: A photo demonstrating the air pollution that exists across large parts of Asia



"Most certainly, some planets are not inhabited, but others are, and among these there must exist life under all conditions and phases of development." – Nikola Tesla

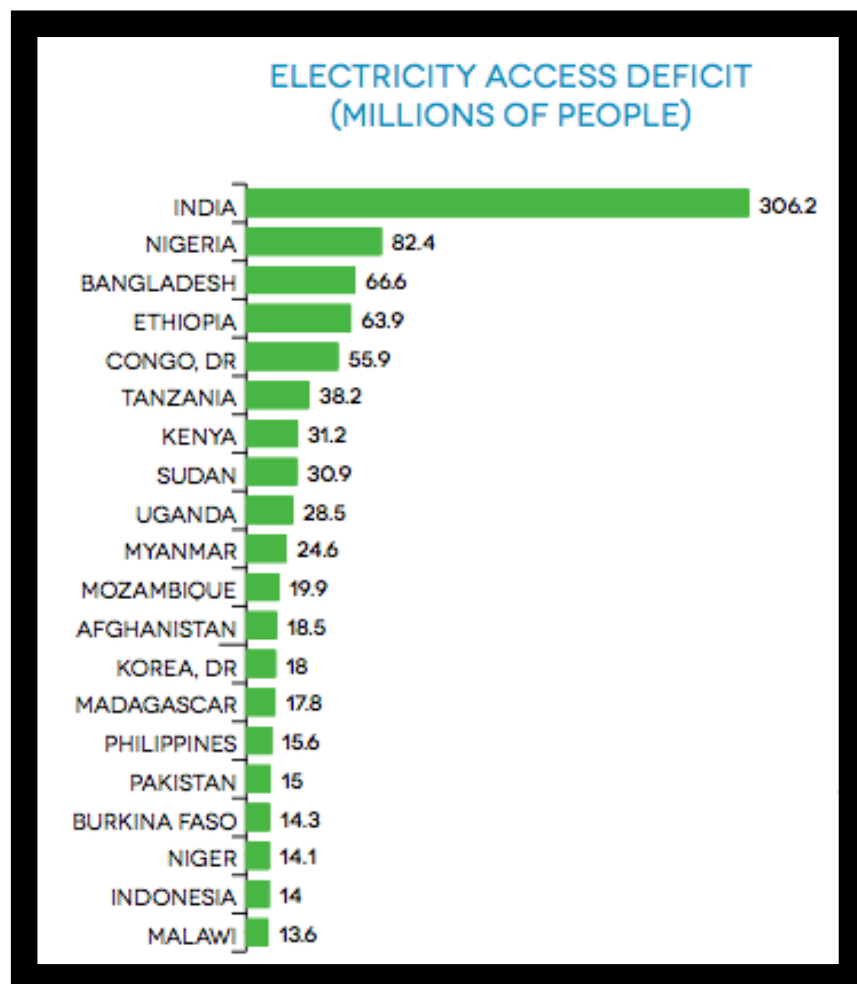
Figure 11: A photo demonstrating the current effects of global warming and sea levels rising



On the global scale, X will be able to provide power anywhere on the globe, which will in turn allow telecommunications to reach everyone regardless of their location. **To** generate revenue, we would have customers purchase/subscribe to our power plan and telecommunications services using new innovations. For those who do not currently have access to power, once this wireless transmission of energy is implemented, we will then be their only possible supplier. **Based on the numbers from 2010, there was an estimated 1.2 billion people without electricity. If X were to charge each person a flat fee of US\$0.50 per month for electricity, we could make US\$7.2 billion in a single year.**

"The day science begins to study non-physical phenomena, it will make more progress in one decade than in all the previous centuries of its existence."- Nikola Tesla

Figure 12: Chart showing the number of people (in millions) who do not have access to electricity in 2010



"The scientists of today think deeply instead of clearly. One must be sane to think clearly, but one can think deeply and be quite insane."–
Nikola Tesla

4 X's Motives

- 4.1 **Alpha:** Initial cost estimated at \$2B USD to pay for a self sustaining renewable energy source solar farms built on two sides of the planet using new technology and innovations to wirelessly power our 268 facilities across the globe. Building more of these complexes can in turn generate revenue for X – selling energy globally. All materials, manpower, machines and methods are included in this initial cost.
- 4.2 **Beta:** This project should take no more than 3.5 years to accomplish.
- 4.3 **Gamma:** X's future role as a leading innovator and global business is to adhere to popular demands and trends of our world leaders. With the collapsing fossil fuel industry it is our duty and goal to achieve renewable energy sources – self-reliant and robust Corporation. Becoming proper stewards of our planet requires strong leadership and actions. Within 3-4 years, X will no longer be required to pay any electricity bills again. The future of this technology will supply infinite innovations! This technology will also eradicate poverty, hunger and begin to heal our planet!
- 4.4 **Delta:** Since the need for large amounts of energy is being prioritized on the world leaders' agenda – the magnitude of this project is immeasurable as it will replace the fossil fuel industry. It is our duty to create a better future – X is required to be a part of this new era.

"What one man calls God, another calls the laws of physics." – Nikola Tesla

5 Conclusion:

With the implementation of the wireless transfer of energy, X can become the leader in the new era of sustainable renewable energy. X will be able to drastically reduce if not eliminate the cost of electricity in all of their facilities all over the world by becoming a leading company in being completely green. There will be a large number of new potential customers for X, in need of clean green energy. With strong leadership and innovation, X can lead new generations into a cleaner, brighter future.

You can slow down evolution but you cannot stop it

"What we now want is closer contact and better understanding between individuals and communities all over the earth, and the elimination of egoism and pride which is always prone to plunge the world into primeval barbarism and strife... Peace can only come as a natural consequence of universal enlightenment..." – Nikola Tesla

6 Sources:

- 6.1 Figures 1, 2 & 3: Source: <https://www.youtube.com/watch?v=-Wf7aadxBkE>
- 6.2 Figure 4: **Courtesy by X**
- 6.3 Figures 5, 6 & 7: **Construction of the prototype, courtesy of X**
- 6.4 Figure 8: Source: <https://entjournal.wordpress.com/2012/11/27/nikola-tesla-and-his-discovery-of-wireless-technology/>
- 6.5 Figure 9: Source: <http://www.mirror.co.uk/news/world-news/beijing-smog-pictures-before-after-6973550>
- 6.6 Figure 10: Source: http://www.huffingtonpost.com/entry/astronaut-earth-looks-sickly-fragile_us_56bf6fa8e4b08ffac1257d85
- 6.7 Figure 11: Source: <http://www.bbc.com/earth/story/20160408-this-is-how-far-seas-could-rise-thanks-to-climate-change>
- 6.8 Figure 12: Source: <http://www.citylab.com/work/2013/06/where-billion-people-still-live-without-electricity/5807/>
- 6.9 Nikola Tesla Quotes: <http://www.higherperspectives.com/nikola-tesla-quotes-1406167140.html>

"What we now want is closer contact and better understanding between individuals and communities all over the earth, and the elimination of egoism and pride which is always prone to plunge the world into primeval barbarism and strife...
Peace can only come as a natural consequence of universal enlightenment..." – Nikola Tesla